

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 14 March 2005. Responsive to the objections and rejections made in the Official Action, Claims 1 and 3-6 have been amended to clarify the language thereof and the combination of elements which form the invention of the subject Patent Application. Additionally, Claim 7 has been cancelled by this Amendment.

In the Official Action, the Examiner objected to the Drawings under 37 C.F.R. § 1.83(a). The Examiner stated that the Drawings must show every feature of the invention specified in the Claims, and therefore, the controlling device of Claim 7 must be shown or the feature canceled from the Claims.

Accordingly, Claim 7 has been canceled by this Amendment, thereby obviating the need for providing corrected formal Drawings.

In the Official Action, the Examiner objected to Claims 1-7 due to informalities therein. In particular, the Examiner indicated that the term "the pulse width modulation" lacked proper antecedent basis and noted a word change in another Claim. Further, the Examiner rejected Claims 1-7 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner indicated terminology in Claims 1 and 3 which was confusing.

Accordingly, Claims 1, and 3-6 have been amended to correct the language thereof. It is believed that the Claims, as now amended, particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

In the Official Action, the Examiner rejected Claims 1 and 2 under 35 U.S.C. § 103, as being unpatentable over Nishimura, et al., U.S. Patent 6,614,185, in view of Rilly, et al., U.S. Patent 4,975,823. However, the Examiner kindly indicated that Claims 3-7 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, and to include all of the limitations of the base claim and any intervening claims.

Claims 3 and 6 have been amended to place those Claims in independent form. Claims 3 and 6 were amended to include all of the limitations of Claim 1, the base claim, and any intervening claims, which there were none. Thus, Claims 3 and 6 should now be allowable.

Claim 1 has been amended to distinguish the invention of the subject Patent Application, as defined in Claim 1, over the prior art. Claim 1, now defines a high-efficiency controller of a gas-filled light producing tube which includes a logic integrated circuit controlled and oscillated using pulse width modulation for transforming direct electric current supplied from a power source into output signals in a form of high-frequency sign waves. The controller includes a power amplifying circuit formed by a pair of transistors respectively coupled to a pair of outputs of the logic integrated circuit to provide a push-pull configuration. The

controller also includes a transformer electrically connected to a pair of outputs of the power amplifying circuit for supplying current and voltage as needed by a load.

In contradistinction, the Nishimura, et al. reference is directed to a discharge tube with interior and exterior electrodes. The reference discloses, in Fig. 4, a discharge lamp device having a constant-current push-pull inverter 23 connected to the lighting device 22. The inverter 23 includes a pair of transistors Q2 and Q3 in a self-regenerative configuration utilizing the feedback winding Tr1c to drive the transistors Q2 and Q3. The sign-wave signals generated by inverter 23 are varied by use of a chopping circuit formed by transistor Q1 and a pulse width modulator 24, interrupting the feedback from winding Tr1c through the choke L1.

Whereas in the invention of the subject Patent Application, rather than providing constant current, the controller provides an output voltage and current which self adjusts to the load. The transistors Q1 and Q2 are not coupled in feedback relationship with the output transformer, but are directly driven by the logic integrated circuit so that the pulse width modulation drives the transistors, rather than interrupting the base drive signals, as provided by Nishimura, et al. Nowhere does Nishimura, et al. disclose or suggest a power amplifying circuit formed by a pair of transistors respectively coupled to a pair of outputs of the logic integrated circuit to provide a push-pull configuration, as now claimed.

The Rilly, et al. reference does not overcome the deficiencies of Nishimura, et al. The Rilly, et al. reference is directed to a switch power supply with current mode regulation. The power supply circuit utilizes a control integrated circuit 5 which includes a pulse width modulator 15 therein. The output of pulse width modulator 15 controls a controllable oscillator 14 which provides an output to a pair of transistors T2 and T3 from the output terminal g. The output 24 of the driver transistors T2 and T3 is coupled to the base of the switching transistor T1, the collector of which is coupled to the primary winding 2 of the switching mode power supply transformer Tr. Thus, when the transistor T1 is turned on, such passes current through the primary winding to store magnetic energy therein. When transistor T1 is cut off, the voltage is induced in the winding 2. Thus, this system utilizes a "fly-back" to generate the output voltage.

Therefore, nowhere does the Rilly, et al. reference disclose or suggest a power amplifying circuit formed by a pair of transistors respectively coupled to a pair of outputs of the logic circuit to provide a push-pull configuration, as now claimed. In fact, the reference teaches away from the structure of the invention of the subject Patent Application, wherein both the transistors T2 and T3 are commonly coupled to a single output of the control circuit. As neither Nishimura, et al. nor Rilly, et al. disclose or suggest the structure of the invention of the subject Patent Application, as now claimed, they cannot make obvious that

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invention. In fact, both references teach away from the structure of the invention of the subject Patent Application.

For all of the foregoing reasons, it is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
For: ROSENBERG, KLEIN & LEE

A handwritten signature in cursive script, reading "David I. Klein".

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